

Application No. 10/809,385
Amendment under 37 CFR 1.111
Reply to Office Action dated November 3, 2005
May 3, 2006

AMENDMENTS TO THE CLAIMS

Please substitute the following claims for the pending claims with the same numbers, respectively:

Claim 1 (Currently amended): A performance input apparatus comprising:

a base section;

an operating section displaceable, in response to operation by a human operator, relative to said base section with respect to at least one displacement axis, said at least one displacement axis including a linear-displacement axis along which said operating section is linearly displaceable;

a pivot section including a rotary shaft rotatable about a predetermined pivot axis ~~in response to the operation, by the human operator, of said operating section~~ and a mechanism that transforms rotary movement of said rotary shaft into linear movement along said linear-displacement axis;

a detection section that detects displacement corresponding to linear movement of said operating section along said linear-displacement axis, responsive to the operation by the human

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operator, for at least one parameter selected from a group of parameters including a position, angle, velocity and acceleration, and outputs a detection signal corresponding to the detected parameter;

a reactive force information generation section that generates reactive force information on the basis of the detection signal outputted by said detection section;

a rotary driver that ~~reactive force generation section that imparts a reactive force to said operating section by driving~~ drives the rotary shaft of said pivot section on the basis of the reactive force information so that said mechanism of said pivot section transforms the rotational movement of said rotary shaft into linear movement along said linear-displacement axis of said operating section to thereby impart a linear reactive force to said operating section; and

an output section that outputs a control signal responsive to the operation, by the human operator, of said operating section on the basis of the detection signal outputted by said detection section.

Claim 2 (Currently amended): [[A]] The performance input apparatus as claimed in claim 1, wherein said output section

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outputs a control signal for controlling a tone on the basis of the detection signal outputted by said detection section.

Claim 3 (Currently amended): [[A]] The performance input apparatus as claimed in claim 1, wherein said operating section is displaceable, in response to operation by the human operator, with respect to ~~a plurality of displacement~~ first and second pivotal-displacement axes,

said pivot section further includes ~~a plurality of first and second~~ rotary shafts corresponding to ~~a plurality of first and second~~ pivot axes provided in corresponding relation to the first and second ~~plurality of displacement~~ pivotal-displacement axes, and ~~a mechanism that transmits displacement, relative to the plurality of displacement axes, of said operating section to corresponding ones of the rotary shafts,~~

said detection section further detects first and second pivotal displacement corresponding to pivotal movement of said operating section along said first and second pivotal-displacement axes, responsive to the operation by the human operator, and outputs first and second detection signals corresponding to the first and second pivotal displacement;

said reactive force information generation section further

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generates ~~a plurality of pieces of~~ first and second reactive force information in correspondence with the first and second ~~plurality of~~ pivot axes on the basis of the first and second detection signals, and

said performance input apparatus further comprises first and second rotary drivers ~~reactive force generation section includes~~ ~~a plurality of motors~~ provided in corresponding relation to the first and second rotary shafts corresponding to the first and second pivot axes, and said first and second rotary drivers ~~reactive force generation section drives~~ drive a corresponding one of the first and second rotary shafts, on the basis of the first and second ~~plurality of pieces of~~ reactive force information corresponding to the first and second pivot axes, ~~corresponding ones of the motors~~ to thereby impart a different reactive ~~forces~~ force to said operating section for each of the ~~displacement axis~~ first and second pivotal-displacement axes.

Claim 4 (Currently amended): [[A]] The performance input apparatus as claimed in claim 3, wherein ~~said detection section detects displacement of said operating section, responsive to the operation by the human operator, for each of the displacement axes,~~

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each of the ~~displacement~~ first and second pivotal-
displacement axes of said operating section is associated with
any of a plurality of tone factors, and

said output section generates, in response to the first and
second detection signals outputted by said detection section for
the ~~displacement~~ first and second pivotal-displacement axes, a
control signal for setting or controlling a respective ~~ones of~~
the tone ~~factors~~ factor.

Claim 5 (Currently amended): [[A]] The performance input
apparatus as claimed in claim 4, wherein said detection section
detects displacement of said operating section responsive to the
operation for each of the ~~displacement~~ first and second pivotal-
displacement axes, by detecting displacement of each of the first
and second rotary ~~shaft~~ shafts corresponding to the first and
second pivot ~~axe~~ axes.

Claim 6 (Currently amended): [[A]] The performance input
apparatus as claimed in claim 4, wherein said detection section
detects, for each of the first and second pivot axes, a
displacement-related parameter of a type defined independently
for the first and second pivot ~~axis~~ axes.

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Claim 7 (Currently amended): [[A]] The performance input apparatus as claimed in claim 3, wherein said ~~reactive force generation section drives the motors,~~ first and second rotary drivers are provided in corresponding relation to the first and second pivot axes, in such a manner that counter torque is applied, for each of the displacement first and second pivotal-displacement axes, to the displacement of said operating section produced on the displacement-axis first and second pivotal-displacement axes, to thereby impart a reactive force to said operating section independently for each of the displacement first and second pivotal-displacement axes.

Claim 8 (Cancelled)

Claim 9 (Cancelled)

Claim 10 (Currently amended): [[A]] The performance input apparatus as claimed in claim 1, which is portable, and wherein said operating section is operable by the human operator with said base section held by the human operator.

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Claim 11 (Currently amended): [[A]] The performance input apparatus as claimed in claim 10, wherein said operating section is operable by the human operator with said base section placed in contact with a ground surface or a surface of a floor or table.

Claim 12 (Currently amended): [[A]] The performance input apparatus as claimed in claim 1, wherein said operating section includes an operating arm operable by the human operator, and a multi-axis movement mechanism that allows said operating section to be displaced relative to said base section with respect to a plurality of axes.

Claim 13 (Currently amended): [[A]] The performance input apparatus as claimed in claim 12, wherein said base section includes an arm portion extending from said multi-axis movement mechanism in one direction and a free arm extending from said multi-axis movement mechanism in a direction opposite to the one direction, and wherein, in displacing said operating section relative to the arm portion, the human operator can hold the free arm ~~supplementarily~~.